

What Is Claimed Is:

1. A guidewire suitable for measuring features within a vessel, the guidewire comprising a core wire having proximal and distal sections, the distal section having an outer surface and outer diameter, and a plurality of radiopaque markers disposed at predetermined intervals on the distal section, the improvement comprising that the outer surface of the guidewire is substantially smooth.
2. The guidewire of claim 1 wherein the plurality of radiopaque markers are substantially flush with the outer diameter of the distal section.
3. The guidewire of claim 2 wherein the diameter of the proximal section is about 0.014 inches.
4. The guidewire of claim 1 wherein the distal section of the core tapered.
5. The guidewire of claim 4 wherein the distal section tapers gradually from 0.014 inches to about 0.005 inches.
6. The guidewire of claim 1 wherein the plurality of radiopaque markers are each about 1 mm in length.

7. The guidewire of claim 1 wherein the plurality of radiopaque markers are disposed at equally spaced intervals.

8. The guidewire of claim 7 wherein the equally spaced intervals are about 10 mm.

9. The guidewire of claim 1 wherein the plurality of radiopaque markers are deposited into indentations in the outer surface of the core wire.

10. The guidewire of claim 1 further comprising a lubricious coating covering the core wire.

11. The guidewire of claim 1 wherein the distal 30 mm of the core wire has a reduced diameter between about 0.001 and 0.003 inches.

12. The guidewire of claim 11 further comprising a coil having proximal and distal ends, the proximal end of the coil affixed to the distal 30 mm of core wire.

13. The guidewire of claim 12 wherein the coil consists of platinum.

14. The guidewire of claim 1 wherein the radiopaque markers consist of gold.

15. A method for manufacturing a guidewire suitable for measuring features within a vessel, the method comprising:

providing a core wire having proximal and distal sections;

coating portions of the distal section with a mask;

exposing the core wire beneath the mask at a plurality of predetermined locations;

depositing a radiopaque material at the predetermined locations; and

removing the mask.

16. The method of claim 15 further comprising tapering the distal section of the core wire.

17. The method of claim 15 wherein depositing a radiopaque material at the predetermined locations comprises electroplating gold onto the predetermined locations.

18. The method of claim 15 further comprising coating the guidewire with a lubricious coating.

19. The method of claim 15 wherein removing the mask includes chemically dissolving the masking.

20. The method of claim 15 further comprising forming indentations at the predetermined locations prior to depositing the radiopaque materials.

21. Apparatus suitable for measuring features within a vessel, the apparatus comprising:

a sheath having a distal region, the distal region having an exterior surface and outer diameter, and a plurality of radiopaque markers disposed at predetermined intervals on the exterior surface.

22. The apparatus of claim 21 wherein the plurality of radiopaque markers are substantially flush with the outer diameter of the distal region.

23. The apparatus of claim 21 wherein the plurality of radiopaque markers are each about 1 mm in length.

24. The apparatus of claim 21 wherein the plurality of radiopaque markers are disposed spaced apart at equally spaced intervals.

25. The apparatus of claim 24 wherein the equally spaced intervals are about 10 mm.

26. The apparatus of claim 21 wherein the plurality of radiopaque markers are deposited into indentations in the exterior surface of the sheath.

27. The apparatus of claim 21 wherein the radiopaque markers consist of gold.

28. The apparatus of claim 21 wherein the proximal section of the sheath is coupled to a push wire.

29. The apparatus of claim 28 wherein the push wire spans a substantially greater length than the sheath.